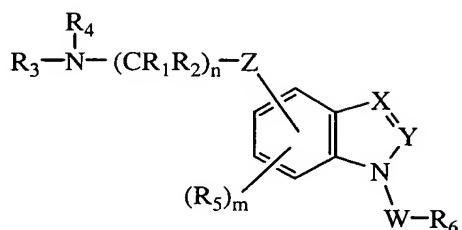


**WHAT IS CLAIMED IS:**

1. A compound of formula I



5

(I)

wherein

- W is SO<sub>2</sub>, CO, CONH, CSNH or CH<sub>2</sub>;
- X is CR<sub>1</sub> or N;
- Y is CR<sub>8</sub> or N with the proviso that when X is N, then  
10 Y must be CR<sub>8</sub>;
- Z is O, SO<sub>p</sub> or NR<sub>9</sub>;
- R<sub>1</sub> and R<sub>2</sub> are each independently H or C<sub>1</sub>-C<sub>6</sub>alkyl;
- n is an integer of 2, 3 or 4;
- R<sub>3</sub> and R<sub>4</sub> are each independently H, CNR<sub>10</sub>NR<sub>11</sub>R<sub>12</sub>, or a  
15 C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted, or R<sub>3</sub> and R<sub>4</sub> may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-  
20 membered ring optionally containing an additional heteroatom selected from O, N or S;
- R<sub>5</sub> is H, halogen, CN, OR<sub>13</sub>, CO<sub>2</sub>R<sub>14</sub>, CONR<sub>15</sub>R<sub>16</sub>, CNR<sub>17</sub>NR<sub>18</sub>R<sub>19</sub>, SO<sub>2</sub>NR<sub>20</sub>R<sub>21</sub>, SO<sub>q</sub>R<sub>22</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl,  
25 C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;
- m is an integer of 1, 2 or 3;
- p and q are each independently 0 or an integer of 1 or 2;

R<sub>6</sub> is an optionally substituted C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group;

5 R<sub>7</sub> and R<sub>8</sub> are each independently H, halogen or a C<sub>1</sub>-C<sub>6</sub> alkyl, aryl, heteroaryl or C<sub>1</sub>-C<sub>6</sub>alkoxy group each optionally substituted;

R<sub>9</sub> is H or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

10 R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub> and R<sub>19</sub> are each independently H or C<sub>1</sub>-C<sub>4</sub>alkyl;

R<sub>13</sub> is H, COR<sub>23</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, aryl or heteroaryl group each optionally substituted;

15 R<sub>14</sub> is H or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group each optionally substituted;

R<sub>20</sub> and R<sub>21</sub> are each independently H or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group each optionally substituted; and

20 R<sub>22</sub> and R<sub>23</sub> are each independently an optionally substituted C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group; or a pharmaceutically acceptable salt thereof.

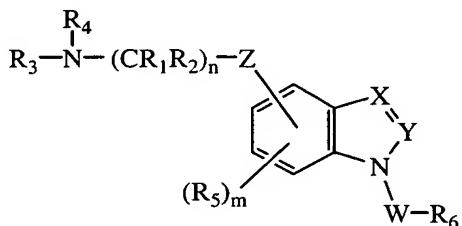
2. The compound according to claim 1 wherein W is SO<sub>2</sub>.
- 25 3. The compound according to claim 1 wherein Z is O.
4. The compound according to claim 1 wherein n is 2.
- 30 5. The compound according to claim 1 wherein R<sub>6</sub> is an aryl or heteroaryl group each optionally substituted.
6. The compound according to claim 1 wherein X is CR, and R<sub>5</sub> and R<sub>7</sub> are H.

7. The compound according to claim 2 wherein R<sub>1</sub> and R<sub>2</sub> are H; Z is O; and n is 2.

8. The compound according to claim 6 wherein W is SO<sub>2</sub>; 5 Z is O; and R<sub>3</sub> and R<sub>4</sub> are taken together with the atom to which they are attached to form a 5- or 6-membered ring optionally containing one oxygen atom.

9. The compound according to claim 6 selected from the 10 group consisting of:  
2-{[1-(phenylsulfonyl)-1H-indol-4-yl]oxy}ethylamine;  
4-(2-morpholin-4-ylethoxy)-1-(phenylsulfonyl)-1H-indole;  
1-(phenylsulfonyl)-4-(2-piperidin-1-ylethoxy)-1H-indole;  
N-(2-{[1-(phenylsulfonyl)-1H-indol-4-  
15 yl]oxy}ethyl)tetrahydro-2H-pyran-4-amine;  
N,N-bis(3-methoxybenzyl)-2-{[1-(phenylsulfonyl)-1H-indol-  
4-yl]oxy}ethanamine;  
N-(3-methoxybenzyl)-2-{[1-(phenylsulfonyl)-1H-indol-4-  
20 yl]oxy}ethanamine;  
N,N-dimethyl-2-{[1-(phenylsulfonyl)-1H-indol-4-  
yl]oxy}ethanamine;  
1-(phenylsulfonyl)-4-[2-(1-piperidinyl)ethoxy]-1H-  
indazole;  
2-{[1-(phenylsulfonyl)-1H-indazol-4-yl]oxy}ethylamine;  
25 N-(2-{[1-(phenylsulfonyl)-1H-indazol-4-  
yl]oxy}ethyl)tetrahydro-2H-pyran-4-amine;  
N-(2-{[1-(phenylsulfonyl)-1H-indazol-4-  
yl]oxy}ethyl)tetrahydro-2H-thiopyran-4-amine;  
1-[(4-nitrophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-  
30 1H-indazole;  
1-[(4-fluorophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-  
1H-indazole;  
4-({4-[2-(1-piperidinyl)ethoxy]-1H-indazol-1-  
35 yl}sulfonyl)aniline; and  
a pharmaceutically acceptable salt thereof.

10. A method for the treatment of a disorder of the central nervous system related to or affected by the 5-HT<sub>6</sub> receptor in a patient in need thereof which comprises providing to said patient a therapeutically effective amount of a compound of formula I.



(I)

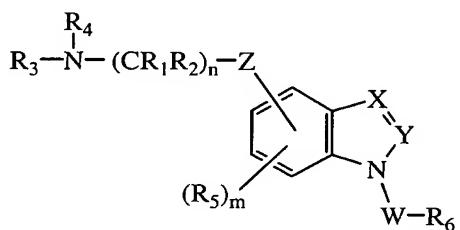
wherein

- W is SO<sub>2</sub>, CO, CONH, CSNH or CH<sub>2</sub>;
- X is CR<sub>1</sub> or N;
- Y is CR<sub>2</sub> or N with the proviso that when X is N, then Y must be CR<sub>2</sub>;
- Z is O, SO<sub>2</sub> or NR<sub>3</sub>;
- R<sub>1</sub> and R<sub>2</sub> are each independently H or C<sub>1</sub>-C<sub>6</sub>alkyl;
- n is an integer of 2, 3 or 4;
- R<sub>3</sub> and R<sub>4</sub> are each independently H, CNR<sub>10</sub>NR<sub>11</sub>R<sub>12</sub>, or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted, or R<sub>3</sub> and R<sub>4</sub> may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring optionally containing an additional heteroatom selected from O, N or S;
- R<sub>5</sub> is H, halogen, CN, OR<sub>13</sub>, CO<sub>2</sub>R<sub>14</sub>, CONR<sub>15</sub>R<sub>16</sub>, CNR<sub>17</sub>NR<sub>18</sub>R<sub>19</sub>, SO<sub>2</sub>NR<sub>20</sub>R<sub>21</sub>, SO<sub>2</sub>R<sub>22</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;
- m is an integer of 1, 2 or 3;

- p and q are each independently 0 or an integer of 1 or 2;
- R<sub>6</sub> is an optionally substituted C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group;
- 5 R<sub>7</sub> and R<sub>8</sub> are each independently H, halogen or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl, heteroaryl or C<sub>1</sub>-C<sub>6</sub>alkoxy group each optionally substituted;
- R<sub>9</sub> is H or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;
- 10 R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub> and R<sub>19</sub> are each independently H or C<sub>1</sub>-C<sub>4</sub>alkyl;
- R<sub>13</sub> is H, COR<sub>23</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, aryl or heteroaryl group each optionally substituted;
- 15 R<sub>14</sub> is H or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group each optionally substituted;
- R<sub>20</sub> and R<sub>21</sub> are each independently H or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group each optionally substituted; and
- 20 R<sub>22</sub> and R<sub>23</sub> are each independently an optionally substituted C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group; or a pharmaceutically acceptable salt thereof.
- 25 11. The method according to claim 10 wherein said disorder is a motor disorder, anxiety disorder or cognitive disorder.
- 30 12. The method according to claim 10 wherein said disorder is schizophrenia or depression.
13. The method according to claim 11 wherein said cognitive disorder is attention deficit disorder.

14. The method according to claim 11 wherein said cognitive disorder is Alzheimer's disease or Parkinson's disease.

5 15. A pharmaceutical composition which comprises a pharmaceutically acceptable carrier and an effective amount of a compound of formula I.



(I)

10 wherein

W is SO<sub>2</sub>, CO, CONH, CSNH or CH<sub>2</sub>;

X is CR<sub>3</sub> or N;

Y is CR<sub>3</sub> or N with the proviso that when X is N, then Y must be CR<sub>3</sub>;

15 Z is O, SO<sub>2</sub> or NR<sub>3</sub>;

R<sub>1</sub> and R<sub>2</sub> are each independently H or C<sub>1</sub>-C<sub>6</sub>alkyl;

n is an integer of 2, 3 or 4;

R<sub>3</sub> and R<sub>4</sub> are each independently H, CNR<sub>10</sub>NR<sub>11</sub>R<sub>12</sub>, or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-

20 C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted, or R<sub>3</sub> and R<sub>4</sub> may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring optionally containing an additional heteroatom selected from O, N or S;

25 R<sub>5</sub> is H, halogen, CN, OR<sub>13</sub>, CO<sub>2</sub>R<sub>14</sub>, CONR<sub>15</sub>R<sub>16</sub>, CNR<sub>17</sub>NR<sub>18</sub>R<sub>19</sub>, SO<sub>2</sub>NR<sub>20</sub>R<sub>21</sub>, SO<sub>2</sub>R<sub>22</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl,

$C_2-C_6$ alkynyl,  $C_3-C_6$ cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;

5        $m$  is an integer of 1, 2 or 3;

$p$  and  $q$  are each independently 0 or an integer of 1 or 2;

$R_6$  is an optionally substituted  $C_1-C_6$ alkyl, aryl or heteroaryl group;

10       $R_7$  and  $R_8$  are each independently H, halogen or a  $C_1-C_6$ alkyl, aryl, heteroaryl or  $C_1-C_6$ alkoxy group each optionally substituted;

$R_9$  is H or a  $C_1-C_6$ alkyl,  $C_2-C_6$ alkenyl,  $C_2-C_6$ alkynyl,  $C_3-C_6$ cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

15       $R_{10}$ ,  $R_{11}$ ,  $R_{12}$ ,  $R_{15}$ ,  $R_{16}$ ,  $R_{17}$ ,  $R_{18}$  and  $R_{19}$  are each independently H or  $C_1-C_4$ alkyl;

$R_{13}$  is H,  $COR_{23}$  or a  $C_1-C_6$ alkyl,  $C_2-C_6$ alkenyl,  $C_2-C_6$ alkynyl, aryl or heteroaryl group each optionally substituted;

20       $R_{14}$  is H or a  $C_1-C_6$ alkyl, aryl or heteroaryl group each optionally substituted;

$R_{20}$  and  $R_{21}$  are each independently H or a  $C_1-C_6$ alkyl, aryl or heteroaryl group each optionally substituted; and

25       $R_{22}$  and  $R_{23}$  are each independently an optionally substituted  $C_1-C_6$ alkyl, aryl or heteroaryl group; or a pharmaceutically acceptable salt thereof.

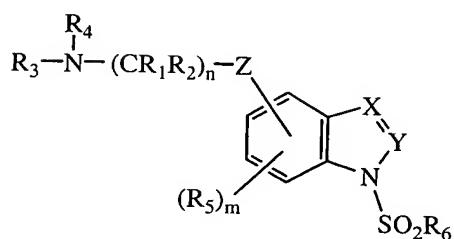
16. The composition according to claim 15 wherein W is  
30     $SO_2$ ; Z is O; and n is 2.

17. The composition according to claim 16 wherein  $R_6$  is an aryl or heteroaryl group each optionally substituted.

18. The composition according to claim 17 wherein X is CR, and R<sub>1</sub>, R<sub>2</sub>, R<sub>5</sub>, and R<sub>7</sub> are H.

19. The composition according to claim 18 having a  
5 formula I compound selected from the group consisting of:  
2-{{1-(phenylsulfonyl)-1H-indol-4-yl}oxy}ethylamine;  
4-(2-morpholin-4-ylethoxy)-1-(phenylsulfonyl)-1H-indole;  
1-(phenylsulfonyl)-4-(2-piperidin-1-ylethoxy)-1H-indole;  
N-(2-{{1-(phenylsulfonyl)-1H-indol-4-  
10 yl}oxy}ethyl)tetrahydro-2H-pyran-4-amine;  
N,N-bis(3-methoxybenzyl)-2-{{1-(phenylsulfonyl)-1H-indol-  
4-yl}oxy}ethanamine;  
N-(3-methoxybenzyl)-2-{{1-(phenylsulfonyl)-1H-indol-4-  
yl}oxy}ethanamine;  
15 N,N-dimethyl-2-{{1-(phenylsulfonyl)-1H-indol-4-  
yl}oxy}ethanamine;  
1-(phenylsulfonyl)-4-[2-(1-piperidinyl)ethoxy]-1H-  
indazole;  
2-{{1-(phenylsulfonyl)-1H-indazole-4-yl}oxy}ethylamine;  
20 N-(2-{{1-(phenylsulfonyl)-1H-indazole-4-  
yl}oxy}ethyl)tetrahydro-2H-pyran-4-amine;  
N-(2-{{1-(phenylsulfonyl)-1H-indazol-4-  
yl}oxy}ethyl)tetrahydro-2H-thiopyran-4-amine;  
1-[(4-nitrophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-  
25 1H-indazole;  
1-[(4-fluorophenyl)sulfonyl]-4-[2-(1-piperidinyl)ethoxy]-  
1H-indazole;  
4-({4-[2-(1-piperidinyl)ethoxy]-1H-indazole-1-  
yl}sulfonyl)aniline; or  
30 a pharmaceutically acceptable salt thereof.

20. A method for the preparation of a compound of formula Ia



(Ia)

5

wherein

- X is CR<sub>1</sub> or N;
- Y is CR<sub>8</sub> or N with the proviso that when X is N, then Y must be CR<sub>8</sub>;
- Z is O, SO<sub>p</sub> or NR<sub>9</sub>;
- R<sub>1</sub> and R<sub>2</sub> are each independently H or C<sub>1</sub>-C<sub>6</sub>alkyl;
- n is an integer of 2, 3 or 4;
- R<sub>3</sub> and R<sub>4</sub> are each independently H, CNR<sub>10</sub>NR<sub>11</sub>R<sub>12</sub>, or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted, or R<sub>3</sub> and R<sub>4</sub> may be taken together with the atom to which they are attached to form an optionally substituted 3- to 6-membered ring optionally containing an additional heteroatom selected from O, N or S;
- R<sub>5</sub> is H, halogen, CN, OR<sub>13</sub>, CO<sub>2</sub>R<sub>14</sub>, CONR<sub>15</sub>R<sub>16</sub>, CNR<sub>17</sub>NR<sub>18</sub>R<sub>19</sub>, SO<sub>2</sub>NR<sub>20</sub>R<sub>21</sub>, SO<sub>q</sub>R<sub>22</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, phenyl or heteroaryl group each optionally substituted;
- m is an integer of 1, 2 or 3;
- p and q are each independently 0 or an integer of 1 or 2;

R<sub>6</sub> is an optionally substituted C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group;

5 R<sub>7</sub> and R<sub>8</sub> are each independently H, halogen or a C<sub>1</sub>-C<sub>6</sub> alkyl, aryl, heteroaryl or C<sub>1</sub>-C<sub>6</sub>alkoxy group each optionally substituted;

R<sub>9</sub> is H or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, cycloheteroalkyl, aryl or heteroaryl group each optionally substituted;

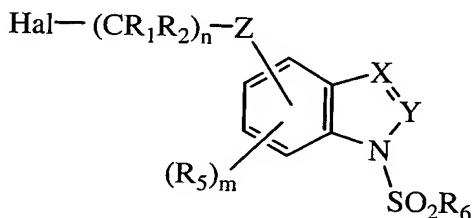
10 R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>17</sub>, R<sub>18</sub> and R<sub>19</sub> are each independently H or C<sub>1</sub>-C<sub>4</sub>alkyl;

R<sub>13</sub> is H, COR<sub>23</sub> or a C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, aryl or heteroaryl group each optionally substituted;

15 R<sub>14</sub> is H or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group each optionally substituted;

R<sub>20</sub> and R<sub>21</sub> are each independently H or a C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group each optionally substituted; and

20 R<sub>22</sub> and R<sub>23</sub> are each independently an optionally substituted C<sub>1</sub>-C<sub>6</sub>alkyl, aryl or heteroaryl group which method comprises reacting a compound of formula V'



(V')

wherein Hal is Cl, Br or I and X, Y, Z, n, m, R<sub>1</sub>, R<sub>2</sub>, R<sub>5</sub> and R<sub>6</sub> are as defined hereinabove with an amine, HNR<sub>3</sub>R<sub>4</sub>,

25 wherein R<sub>3</sub> and R<sub>4</sub> are defined hereinabove optionally in the presence of a solvent to give the desired compound of formula Ia.